

## TWO NEW SPECIES OF *EUCALYPTUS* (MYRTACEAE) FROM CENTRAL QUEENSLAND

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### Summary

*Eucalyptus xanthope*, a new bloodwood, and *Eucalyptus decolor*, a new ironbark, are described and illustrated. Both species have a restricted distribution in sub-coastal central Queensland.

### Taxonomy

***Eucalyptus xanthope* Bean & Brooker, species nova affinis *Eucalypto intermediae* R.** Baker a qua cortice interiore aspero flavescenti, ramulis laevibus, plantulis pubescentibus tantum ad nodum tertium, foliis adultis angustioribus et florescentia dissimili differt. **Typus:** Queensland. PORT CURTIS DISTRICT: Bruce Highway, 0.5 km south of Glen Geddes siding, 23°02'S, 150°16'E, 14 February 1988, A.R. Bean 753 (holo: BRI).

A tree to 20 m tall with flaky bloodwood bark on the trunk and branches greater than 5 cm diameter. Underbark yellow; newly exposed bark yellow and often producing a blotchy appearance, fading slowly to brown then grey; terminal branches (less than c. 5 cm diameter) smooth-barked. Cotyledons reniform, to 9 mm × 12 mm. Seedling leaves opposite for many pairs, shortly petiolate, not peltate, narrow lanceolate, to 11 cm × 1.6 cm, concave, discolourous. Hairs present on leaves and stems until the 2nd or 3rd pair of leaves; subsequent leaves and stems glabrous. Juvenile leaves glabrous, similar in shape, but somewhat larger than seedling leaves. Adult leaves alternate, petiolate, lanceolate, up to 19 cm × 2.5 cm, strongly discolourous, main lateral veins set at a wide angle to the midrib and terminating at an intramarginal vein which is removed from the leaf edge by a single line of areoles; venation densely reticulate; oil glands small, scattered, appearing singly within the areoles if present. Inflorescences apparently terminal, compound. Peduncles angular, to 10 mm long, surmounted by 7 buds. Pedicels up to 6 mm long. Buds ovoid to clavate, smooth, to 8 mm × 5 mm. Opercula low hemispheric, both shed at anthesis. Stamens white, fully inflexed, all fertile. Fruits pedicellate, ovoid, grey or brown, speckled or uniform in colour, to 18 mm × 14 mm, disc descending. Valves deeply enclosed. Seed brown with a long terminal wing. **Fig. 1.**

**Specimens examined:** Queensland. PORT CURTIS DISTRICT: 11.5 km from Marlborough towards Rockhampton, May 1987, *Bean* 566 (BRI); 1.5 km west of Glen Geddes siding, between Rockhampton and Marlborough, Oct 1985, *Bean* 333 (BRI,NSW); Glen Geddes about 25 mls [40 km] N.W. of Rockhampton, Sep 1968, *Everist* 8008 (BRI); 0.3 km south of Glen Geddes siding, Oct 1987, *Brooker* 9772 & *Bean* (AD,BRI,CANB,MEL,NSW); Bruce Highway, 0.5 km south of Glen Geddes Siding, 23°02'S, 150°16'E, Feb 1988, *Bean* 753 (BRI); 11 km from Yeppoon towards Rockhampton, Dec 1985, *Bean* 342 (BRI,NSW).

**Distribution and habitat:** *Eucalyptus xanthope* has a quite restricted distribution between Rockhampton and Marlborough. The main occurrence is along the Bruce Highway between Canoona and Marlborough, and there is a population on the Rockhampton–Yeppoon road (**Map 1**). It grows on low hills in shallow soils. Its occurrence coincides with outcrops of serpentinite, an uncommon type of ultramafic rock, which contains a high proportion of magnesium (as silicate), usually 30–40% (expressed as MgO). Ultramafic rocks, including serpentinite, produce notoriously infertile soils the world over (Beadle 1981). The distribution and origins of ultramafic rocks in the Rockhampton area is discussed at length by Murray (1969).

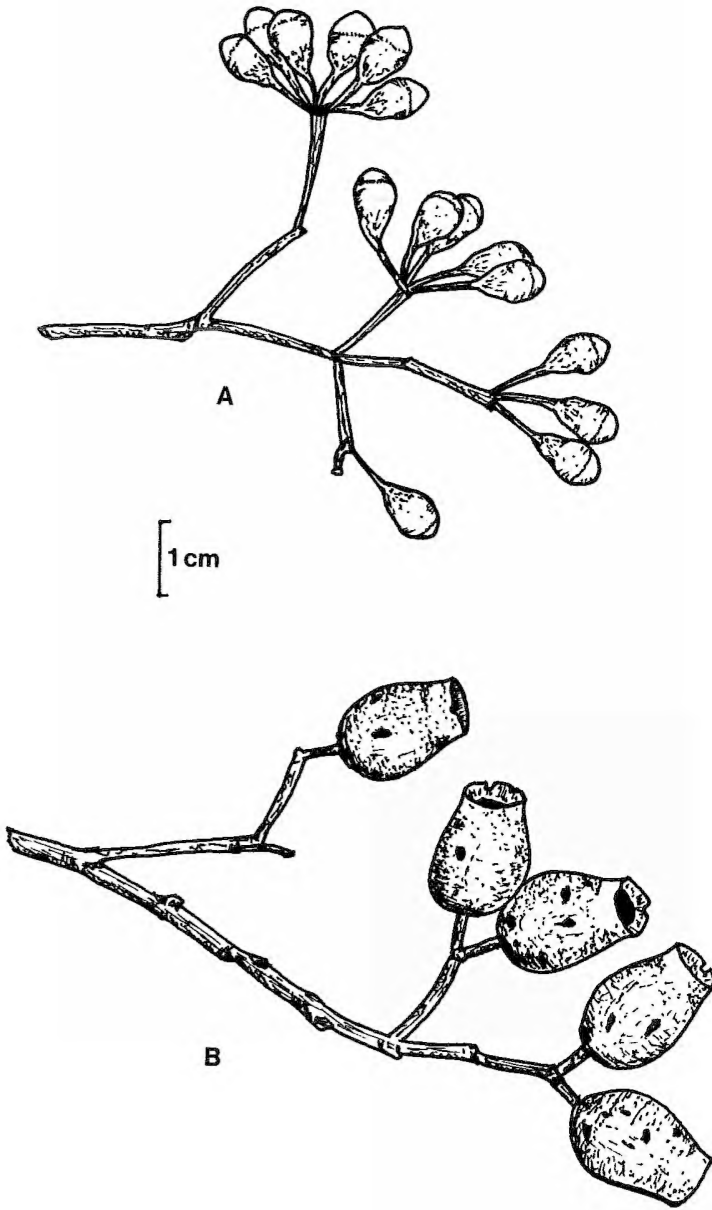


Fig. 1. *Eucalyptus xanthope*: A. buds. B. fruits.

Associated eucalypt species are *E. fibrosa* F. Muell. subsp. *fibrosa*, *E. papuana* F. Muell. and *E. erythrophloia* Blakely. Other prominent associated species include *Racosperma leptostachyum* (Benth.) Pedley, *Triodia* sp. and *Hakea trineura* F. Muell.

**Flowering period:** February–April.

**Affinities:** The bloodwood bark, the transverse leaf venation, the apparently terminal inflorescence and the mop-type stigma (Boland & Sedgely 1986) confirm *E. xanthope* as belonging to the informal *E.* subgenus *Corymbia* (Pryor & Johnson 1971), while the winged seeds indicate its placement in the informal *E.* section *Rufaria* (*E.* series *Terminaliptera* Maiden (Chippendale 1988)). It is morphologically close to *E. intermedia* R. Baker from which it differs in the rough yellow underbark, smooth terminal branches, seedlings hairy to the third node only, narrower adult leaves and different flowering period. It also resembles that species in the commonly speckled, ovoid fruits and the smooth ovoid buds. The two species are readily separable in the field and **Table 1** lists the morphological differences.

**Table 1. Comparison of *E. intermedia* and *E. xanthope***

Character	<i>E. intermedia</i>	<i>E. xanthope</i>
Rough-bark colour	grey outside, brown underneath	brown to grey outside, yellow underneath
Rough-bark extent	persistent throughout	terminal branches smooth
Canopy	dense	sparse, somewhat pendulous
Length/breadth ratio for adult leaves	3–5	5–9
Flowering period	Nov–Jan	Feb–Apr
Seedlings	hairy throughout	glabrous beyond Node 3

In addition to the above, *E. intermedia* and *E. xanthope* have different ecological requirements. *E. intermedia*, which requires a relatively high rainfall, is not common in the Rockhampton area (sites include Mt Archer and Yeppoon). It is unlikely that it would be able to tolerate the hostile edaphic conditions imposed by serpentinite (see above) or the somewhat lower rainfall experienced in the Rockhampton–Marlborough area.

*E. brachycarpa* D. & S. Carr is another similar species. *E. brachycarpa* differs from *E. xanthope* due to its grey or reddish bark, smaller adult leaves, narrower seedling leaves and urceolate fruits.

**Etymology:** The name refers to the blotchy yellow rough bark. The older, outer dead bark is shed unevenly in patches revealing the fresher yellow underbark. (Greek *xanthos*—yellow and *ope*—hole).

**Eucalyptus decolor** Bean & Brooker, **species nova**, arbor (“ironbark”) affinis *Eucalypto paniculatae* Smith a qua cortice trunci atrocineraceo, ramulis laevibus, foliis plantularum angustioribus et foliis adultis et fructibus parvioribus differt. **Typus:** Queensland. PORT CURTIS DISTRICT: Mt Castletower, 24°10'S, 151°17'E, 9 August 1986, A.R. Bean 480 (holo: BRI).

A tree to 25 m tall with dark grey, furrowed ironbark on the trunk and largest branches; small and medium sized branches smooth, white or pink to rich coppery. Cotyledons reniform, to 4 mm × 7 mm. Seedling leaves petiolate, opposite for 3 or 4 pairs, narrow-lanceolate, to 9.2 cm × 1.8 cm, green, discolourous, tips obtuse, with a short point. Juvenile leaves alternating, petiolate, narrow-lanceolate, to 11.5 cm × 1.8 cm, discolourous, dark green above, much paler below. Adult leaves alternate, petiolate, lanceolate, to 12 cm × 1.8 cm, strongly discolourous, dark green above, much paler below, not

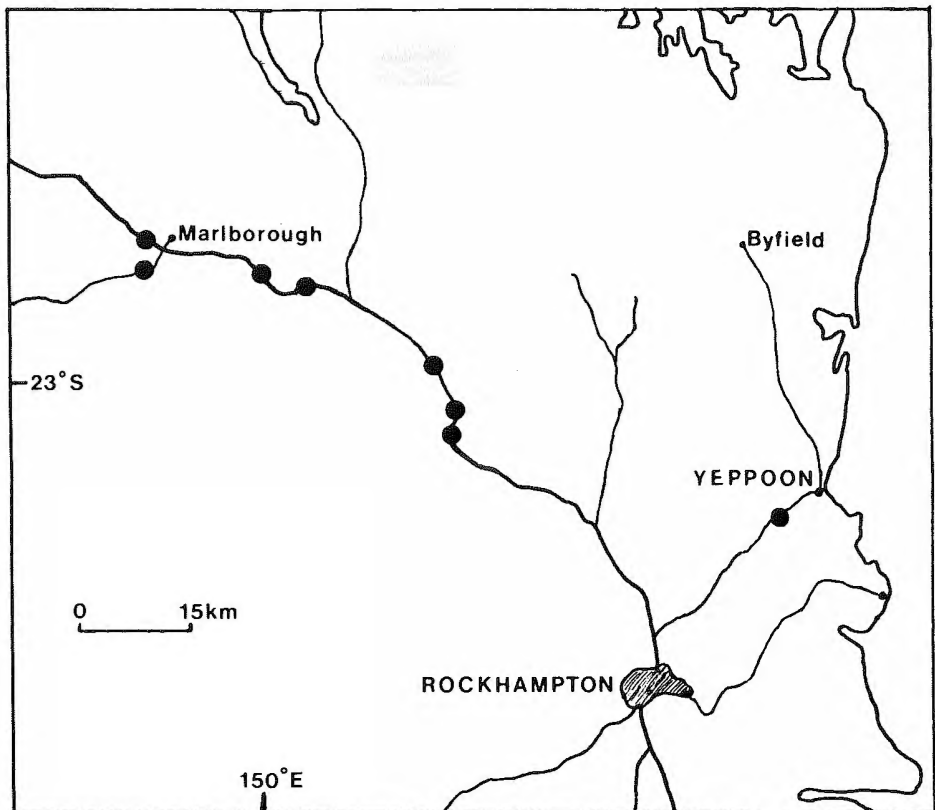
glossy; side veins terminating at an intramarginal vein which is removed from the leaf edge by a single line of areoles; reticulation dense; oil glands few, obscure, discrete within the areoles or apparently associated with veinlets. Inflorescences apparently terminal, compound. Peduncles angular, to 11 mm long, surmounted by 7 buds. Pedicels angular, to 5 mm long. Buds diamond-shaped, to 8 mm × 4 mm. Operculum conical or rostrate, narrower than the hypanthium at the join. Stamens white, inflexed, outer filaments sterile. Fruits pedicellate, ovoid to hemispherical, to 6 mm × 6 mm, staminophore broad, prominent. Disc obscure, valves 4, rarely 5, enclosed, slightly below or at rim level. **Fig. 2.**

**Specimens examined:** Queensland. PORT CURTIS DISTRICT: Mt Castletower, Aug 1986, *Bean* 480 (BRI); Oak Creek, near Mt Castletower, Oct 1987, *Brooker* 9766 & *Bean* (AD,BRI,CANB,MEL,NSW); slopes of Mt Stanley, west of Bororen, Feb 1988, *Bean* 749, 750 (BRI,NSW). BURNETT DISTRICT: about 2 km from Coongara Rock campsite, towards Biggenden, 25°39'S, 152°00'E, May 1988, *Bean* 810 (BRI,NSW).

**Distribution and habitat:** *Eucalyptus decolor* is known only from the Many Peaks Range south of Gladstone, and in the ranges south of Biggenden. (**Map 2**). It grows on hilly to mountainous terrain between altitudes of 300 and 600 metres. Soils vary from white sands to grey loams derived from granite and are always shallow. Associated species include *E. trachyphloia* F. Muell., *E. major* (Maiden) Blakely, *E. acmenoides* Schauer, and *E. maculata* Hook., and at the highest altitudes, *E. andrewsii* Maiden.

**Flowering period:** unknown; flowers have been collected in October and February.

**Affinities:** The ironbark bark, early shedding of the outer operculum, inflexed stamens, the presence of staminodes and the pinhead stigma place this species in the informal *E.* series *Paniculatae* (Pryor & Johnson 1971) (*E.* series *Rhodoxyla* (Blakely) Chippendale

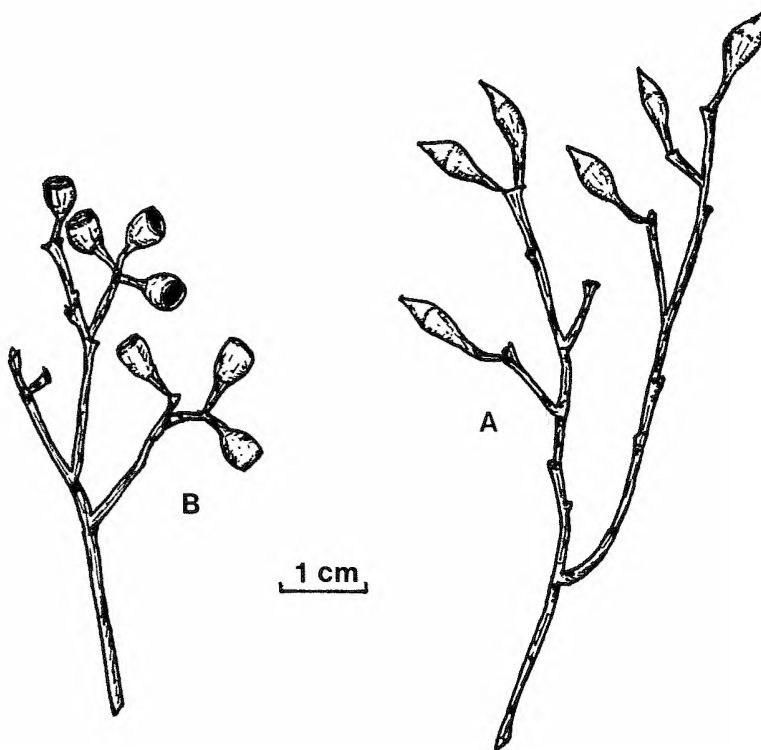


**Map 1.** Distribution of *Eucalyptus xanthope*.

(Chippendale 1988)). This series comprises about 15 species distributed from southern New South Wales to the Tropic of Capricorn in Queensland. Of the members of this group, *E. decolor* is perhaps closest to *E. paniculata*, from which it differs by the darker grey bark on the trunk, smooth outer branches, smaller leaves, narrower seedling leaves and smaller fruits. Both species are unusual in possessing strongly discoloured adult leaves. Another similar and related species is *E. melanoleuca* S.T. Blake. *E. decolor* differs from both of these species by the characters outlined in Table 2. The strongly discoloured adult leaves distinguish *E. decolor* from all other ironbarks indigenous in Queensland.

**Table 2. Comparison of *E. decolor*, *E. paniculata* and *E. melanoleuca***

Character	<i>E. decolor</i>	<i>E. paniculata</i>	<i>E. melanoleuca</i>
Rough bark extent	smaller branches smooth	rough-barked throughout	smaller branches smooth
Seedling leaves	to 9.2 × 1.8 cm	to 8.0 × 5.0 cm	to 5.0 × 1.0 cm
Adult leaves	discoloured, to 12.0 × 1.8 cm	discoloured, to 15.0 × 2.2 cm	concolourous, to 15.0 × 2.5 cm
Fruit	hemispherical to ovoid, to 6 × 6 mm	obconical to pyriform, to 9 × 7 mm	ovoid, to 6 × 5 mm



**Fig. 2 *Eucalyptus decolor*. A. buds. B. fruits.**

**Etymology:** The name refers to the adult leaves, which are pale on the under-surface (Latin *decolor* – discoloured or faded).

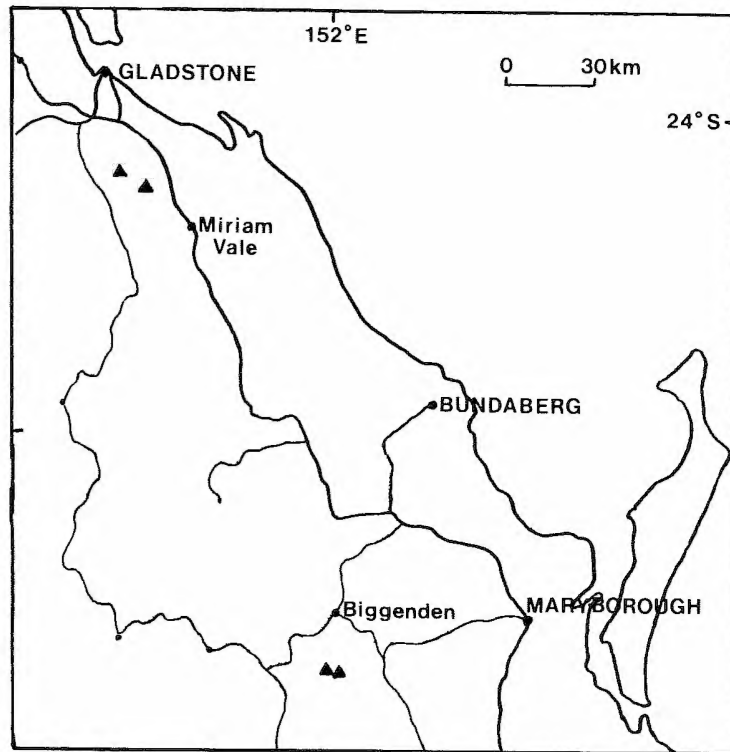
### Acknowledgements

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Map 2. Distribution of *Eucalyptus decolor*.